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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. | |
|--------------------------|-----------------|----------------------|----------------------|------------------|--|
| 10/801,781 | 03/16/2004 | Hans-Peter Moll | 1406/189 | 3095 | |
| 25297 7 | 590 09/19/2005 | | EXAMINER | | |
| JENKINS, W 3100 TOWER | ILSON & TAYLOR, | P. A. | CHAUDHARI, CHANDRA P | | |
| SUITE 1400 | 22,2 | | ART UNIT | PAPER NUMBER | |
| DURHAM, N | C 27707 | | 2891 | | |

DATE MAILED: 09/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | Applicat | ion No. | Applicant(s) | | | | |
|--|--|--|--|-------|--|--|--|
| | 10/801,7 | 7 81 | MOLL ET AL. | | | | |
| Office Action Summary | Examine | er | Art Unit | | | | |
| | Chandra | Chaudhari | 2891 | | | | |
| The MAILING DATE of this communication Period for Reply | n appears on th | e cover sheet with the d | correspondence address | - | | | |
| A SHORTENED STATUTORY PERIOD FOR R WHICHEVER IS LONGER, FROM THE MAILIN - Extensions of time may be available under the provisions of 37 Cl after SIX (6) MONTHS from the mailing date of this communicatio - If NO period for reply is specified above, the maximum statutory - Failure to reply within the set or extended period for reply will, by Any reply received by the Office later than three months after the earned patent term adjustment. See 37 CFR 1.704(b). Status 1) Responsive to communication(s) filed on | IG DATE OF T FR 1.136(a). In no er on. seriod will apply and v statute, cause the appropriating date of this continuous. | HIS COMMUNICATION vent, however, may a reply be tir will expire SIX (6) MONTHS from plication to become ABANDONE communication, even if timely filed | N. mely filed the mailing date of this communic (D) (35 U.S.C. § 133). | · | | | |
| | 2a) ☐ This action is FINAL . 2b) ☑ This action is non-final. | | | | | | |
| 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under <i>Ex parte Quayle</i> , 1935 C.D. 11, 453 O.G. 213. | | | | | | | |
| closed in accordance with the practice the | uei Ex parte Q | uayle, 1935 C.D. 11, 43 | 55 O.G. 215. | | | | |
| Disposition of Claims | | | | | | | |
| 4)⊠ Claim(s) <u>1-12</u> is/are pending in the applica | ation. | | | | | | |
| 4a) Of the above claim(s) is/are with | hdrawn from co | onsideration. | | | | | |
| 5)⊠ Claim(s) <u>1-12</u> is/are allowed. | | | | | | | |
| 6) Claim(s) is/are rejected. | | | | | | | |
| 7) Claim(s) is/are objected to. | | | | | | | |
| 8) Claim(s) are subject to restriction a | ind/or election i | equirement. | | | | | |
| Application Papers | | | | | | | |
| 9) The specification is objected to by the Exa | | -1-11 | = | | | | |
| 10) The drawing(s) filed on 16 March 2004 is/a | | | | | | | |
| Applicant may not request that any objection to Replacement drawing sheet(s) including the co | = | · | ` ' | 31/4\ | | | |
| 11)☐ The oath or declaration is objected to by the | | | | | | | |
| Priority under 35 U.S.C. § 119 | | | | | | | |
| 12)⊠ Acknowledgment is made of a claim for for | roian nriarity un | udor 25 II S.C. S. 110/o |) (d) or (f) | | | | |
| a)⊠ All b)□ Some * c)□ None of: | eigh phonty un | idei 35 U.S.C. § 119(a) |)-(a) or (i). | | | | |
| 1.⊠ Certified copies of the priority docur | ments have bee | en received. | | | | | |
| 2. Certified copies of the priority docur | | | on No | | | | |
| 3. Copies of the certified copies of the priority documents have been received in this National Stage | | | | | | | |
| application from the International Bu | - | | J | | | | |
| * See the attached detailed Office action for a | a list of the cert | ified copies not receive | ed. | | | | |
| | | | | | | | |
| | | | | | | | |
| Attachment(s) | | | | | | | |
| 1) Notice of References Cited (PTO-892) | | 4) Interview Summary | (PTO-413) | | | | |
| 2) D Notice of Draftsperson's Patent Drawing Review (PTO-948 | | Paper No(s)/Mail Da | ate | | | | |
| 3) A Information Disclosure Statement(s) (PTO-1449 or PTO/SI Paper No(s)/Mail Date April 15, 2004. | B/08) | 5) Notice of Informal P 6) Other: | atent Application (PTO-152) | | | | |
| U.S. Patent and Trademark Office | | , | | | | | |
| PTOL-326 (Rev. 7-05) Offi | ce Action Summa | ary Pa | ort of Paper No./Mail Date 2005 | 50915 | | | |

This application is in condition for allowance except for the following formal matters:

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claims 1-12 are allowed because the prior art does not disclose patterning the first hard-mask layer by etching chemistry using the patterned second hard-mask layer, with the third hard-mask layer being removed at the same time, and removing the patterned second hard-mask layer as claimed.

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

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The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure.

Beintner - US 6,013,937, Chakravarti - US 6,204,112, and Divakaruni describe trench

capacitors.

Any inquiry concerning this communication or earlier communications from the examiner

should be directed to Chandra Chaudhari whose telephone number is 571-272-1688. The examiner

can normally be reached on Mon - Fri (9:00-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bill

Baumeister can be reached on 571-272-1722. The fax phone number for the organization where this

application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application

Information Retrieval (PAIR) system. Status information for published applications may be obtained

from either Private PAIR or Public PAIR. Status information for unpublished applications is available

through Private PAIR only. For more information about the PAIR system, see http://pair-

direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the

Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chandra Chaudhari

Primary Examiner

Art Unit 2891

Chandra Chaudhari

C.Chardhan

September 15, 2005